

# Management Instruction

**George C. Marshall Space Flight Center**  
Marshall Space Flight Center, Alabama 35812

Originating Organization: <b>Error! Bookmark not defined.</b>	Effective Date: <b>Error! Bookmark not defined.</b>	<b>MMI</b> <b>Error! Bookmark not defined.</b>
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**Subject:** **Error! Bookmark not defined.**

1. PURPOSE

To establish the requirements for the MSFC S&MA survey program and identify responsibilities for program implementation and maintenance.

2. APPLICABILITY

This Instruction is applicable to MSFC projects. It applies specifically to MSFC organizational elements including the Resident Management Office (RMO), MSFC contractors, and Government Agencies delegated to perform functions at MSFC contractor sites.

3. REFERENCES

- a. CR 5310.4, "Process/Product Integrity Audit (PPIA)"
- b. CR 5310.1E, "Safety and Mission Assurance (S&MA) Surveys at Facilities of Prime Contractors, Subcontractors, and Vendors"
- c. CQ 5310.2C, "MSFC Quality Assurance Internal Surveys of MSFC Organizational Elements"
- d. CQ 5310.3, "Quality Assurance Surveys at Facilities of MSFC Basic Ordering Agreement Contractors"

4. POLICY

- a. MSFC contractors and MSFC organizational elements will be surveyed, as deemed necessary, to ensure flight hardware integrity and to ensure that essential S&MA requirements are documented, implemented, and verified for adequacy and compliance.

- b. When an in-house organization or contractor is in the production phase, the survey will focus on product conformance to specifications and other requirements.
- c. The delegated Government Agency and/or the RMO may be evaluated in conjunction with the survey of a MSFC contractor or assessed separately. If evaluated as part of a contractor survey, the results will be documented in a separate report.
- d. The survey team will be comprised of personnel from the S&MA office and other MSFC organizations matching available expertise to product, process or area to be surveyed. The Project Office shall provide a senior team member for surveys of their contractor(s).
- e. Records of survey findings shall be maintained and tracked until resolutions are verified for adequacy.

5. GENERAL PROVISIONS

The general procedures and processes required in the performance of surveys are shown in Attachment A.

6. RESPONSIBILITIES

Responsibilities of the various organizational elements are outlined in Attachment B.

7. CANCELLATION

MMI 5310.1D, "Reliability and Quality Assurance (R&QA) Surveys," dated February 4, 1977

ORIGINAL SIGNED BY:

G. P. Bridwell  
Director

Attachments:

- A. General Provisions
- B. Responsibilities

Distribution:

SDL 3

GENERAL PROVISIONS

1. Management :

Quality Assurance Office is responsible for the performance and improvement of the survey process and will establish procedures for implementation of this MMI.

2. Survey Types :

The survey type, depth and duration will be based on survey objectives. These objectives are determined by program phase, program maturity, and/or prompting conditions. The following types will be used:

- a. Type 1 - Process/Product Integrity Audit(PPIA) - Evaluating hardware processing systems for variance to baseline plans, interrelationship and effect of management systems, hardware and process controls, and interfacing tools. The evaluation of this data will be performed by S&MA and S&E to identify indicators of generic system anomalies that cause or contribute to the inability of personnel to warrant that the product satisfies specified requirements as well as specific problems in documentation or performance of required manufacturing/assembly operations. Type 1 surveys for shuttle projects will be performed per reference 1, "Process/Product Integrity Audit (PPIA)," CR 5310.4.
- b. Type 2 - S&MA Systems Compliance - Verify documentation and personnel compliance to S&MA program requirements. When checklists are used, they will be developed from the requirements and/or contractor's S&MA plans and procedures. This survey may be conducted by evaluation of either or a combination of:
  - (1) Plans, procedures, and instructions for compliance to top-level S&MA program requirements.
  - (2) Implementation of S&MA systems in production and process control.

- (3) Product end-item records for compliance to the S&MA system requirements.

For mature contracts, survey efforts are estimated to be 80 percent Type 1 and 20 percent Type 2. A type II survey approach may be adapted for performance of a pre-award survey. Type II surveys will be performed in accordance with reference 2, "Safety and Mission Assurance (S&MA) Surveys at Facilities of Prime Contractors, Subcontractors, and Vendors", CR 5310.1E; reference 3, "MSFC Quality Assurance Internal Surveys of MSFC Organizational Elements", CQ 5310.2C; and reference 4, "Quality Assurance Surveys at Facilities of MSFC Basic Ordering Agreement Contractors," CQ 5310.3.

### 3. Scheduling :

- a. Quality Assurance Office will establish and maintain survey schedules.
- b. Survey scheduling will be based on the following prompting conditions:
  - (1) Prior to S&MA program implementation
  - (2) Prior to manufacture of critical component with single point failures
  - (3) Current S&MA capability
  - (4) Significant changes in manufacturing/materials/processes/personnel
  - (5) Adverse trends/quality escapes/other detected deficiencies
  - (6) Results of previous surveys

### 4. Survey Organizations:

- a. Survey Chairman - Quality Assurance Office will assign a survey chairman.
- b. Survey Team - The team will consist of designated S&MA personnel supplemented by other MSFC or outside organizations, as necessary. The project office will provide a senior team member.

- c. Survey Plan - The survey chairman will provide a survey plan to the project manager or MSFC organizational element manager, and to the contractor, when applicable, and will include the following:
  - (1) Survey objectives
  - (2) Survey type
  - (3) Survey team assignments
  - (4) Agenda for survey
- d. Survey Checklists - Checklists will be prepared prior to the survey site visit. They will be tailored based on survey focus areas, and usually prepared at the level of plant instructions.
- e. Survey Notification - For scheduled surveys, the survey chairman will provide notification to the contractor through Contracts/Project Office at least 15 workdays before the first day of the survey. The survey plan will be included with the notification.

5. Performance :

Surveys will be planned and conducted with minimal interruption to ongoing program activities. The ultimate goal of the survey team will be to generate corrective action recommendations, which when implemented, will eliminate re-occurrence of system-inherent, common cause problems/deficiencies. The chairman should survey and also monitor and coordinate team performance.

Survey findings and recommended corrective actions will be documented on the Survey Finding Record (MSFC Form 3826). Each finding will be annotated with a unique tracking number, and classified into the following categories:

- a. Discrepancy: System deficiency or irregularity found in areas controlled by requirements, specifications, or procedures.
- b. Observation: Recommendations intended to improve the program/system for assuring product S&MA, which are not controlled by requirements.

6. Reporting :

All survey findings, with supplementary data, will be documented by the survey team and reviewed with the responsible personnel of the surveyed organization before the team departs from the survey site. The survey report will be distributed to all organizations responsible for corrective action.

7. Response, Corrective Action, and Verification :

- a. Report - The survey chairman, with the assistance of the survey team, will prepare a formal survey report. The report will contain a narrative summary of the survey results, highlighting the significant findings and recommendations for corrections to deficient areas, a summarized count of findings, and identification of root causes of deficient areas with appropriate recommendations.
- b. Survey Closeout Procedures - Corrective Actions will be documented on MSFC Form 3826-1, Corrective Action and/or Closeout Form. The Government Project Office in conjunction with the contractor project office will be responsible for definition, scheduling, and implementation of corrective action. This responsibility will be assumed immediately after the survey. S&MA will track closure and the team chairman will sign final verification of completed corrective action along with the project manager.
- c. Discrepancies shall require formal corrective action implementation for survey closure; whereas observations are provided to the Government Project Office and the contractor, but are not tracked.

RESPONSIBILITIES

1. Project Offices shall :
  - a. Inform S&MA Office of problem areas for a potential survey.
  - b. Notify MSFC contractors of surveys before the initial survey date and arrange for contractor participation. A 15-workday notice will be given. A copy of the survey notification letter shall be furnished to the S&MA office.
  - c. Participate in surveys of the MSFC contractors and selectively in surveys performed by MSFC contractors on their subcontractors and vendors.
  - d. Define, schedule and implement corrective action.
  - e. Approve survey finding close out.
2. S&MA Office shall :
  - a. Appoint the Survey Chairman.
  - b. Establish a Survey Team and select complementary expertise for the Team.
  - c. Establish procedures for scheduling, planning, conducting, and reporting surveys.
  - d. Review trend data, quality metrics, process, product, personnel changes, quality escapes, survey history to assist in scheduling and determining, survey scope, depth, and focus.
  - e. Conduct surveys of the manufacturing/assembly activities of MSFC contractors and participate selectively in subcontractors and vendors.
  - f. Approve survey closeout by written notification to the Government Project Office.
  - g. Issue a report of survey results.
  - h. Establish a system to track, report, and status survey information.

i. Evaluate survey finding responses for adequate corrective actions and verify contractor implementation.

j. Publish annual status reports.

3. Science and Engineering Directorate shall :

a. Inform the S&MA Office of problem areas for potential survey.

b. Participate in surveys, as requested, by providing appropriate skills to assess the adequacy of contractor material and process controls, tooling personnel skills, fabrication and assemble techniques, requirements flowdown and compliance, etc. and by providing recommended corrective actions to findings.

c. Review contractor action item responses pertaining to S&E disciplines.

d. Review and identify processes and product improvements to enhance manufacturing.

4. Directors and Managers of MSFC Organizations shall :

a. Provide participants for joint surveys of their operations when applicable.

b. Support and assist the survey team.

c. Provide corrective action responses.

5. Survey Chairman Shall:

a. Prepare survey plan.

b. Recommend survey team members.

c. Request notification to the contractors and/or Government Agency by the Project Office at least 15 workdays before the first day of the survey. The survey plan will be included with the notification.

- d. Perform survey and monitor and coordinate team performance.
- e. Subsequent to survey finding initiator evaluation and approval, evaluate and approve each survey finding.
- f. Lead exit briefing.
- g. Prepare a formal survey report.
- h. Assist the Government Project Office in defining and implementing corrective actions to survey findings.
- i. Assist in the coordination of survey closeouts for S&MA approval.